

**FIG. 1**

LEARNING OF THE AMOUNT OF HEAD SKEW  
OF SERVO SIGNAL AREA

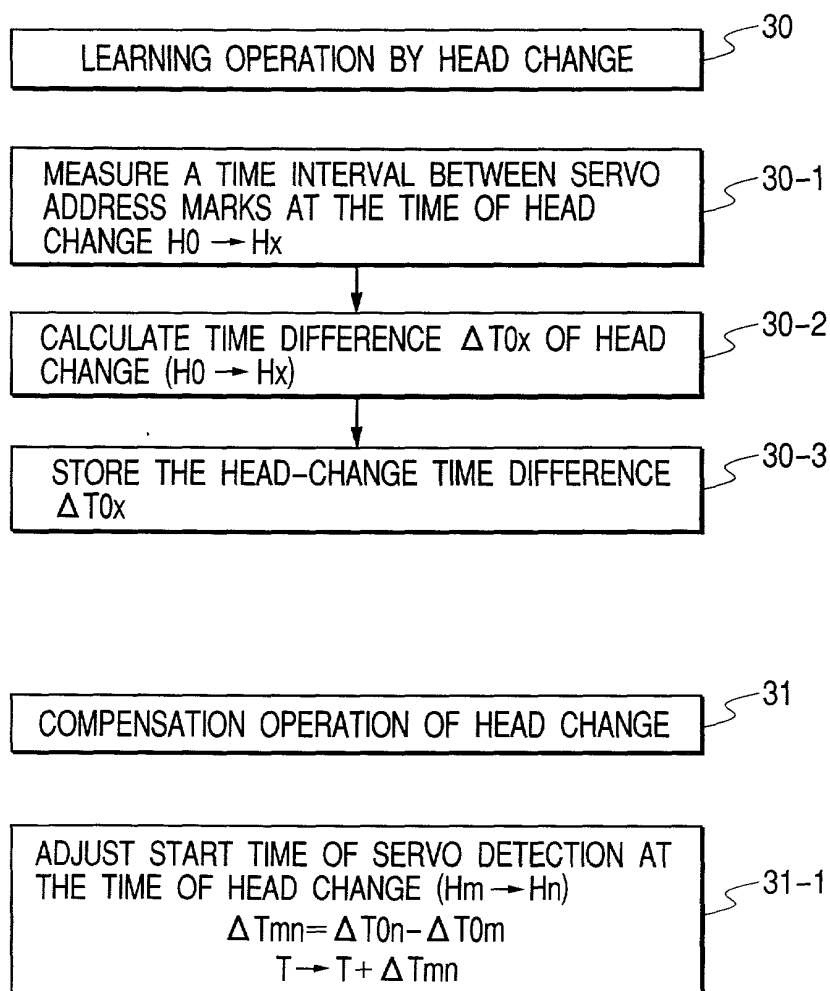
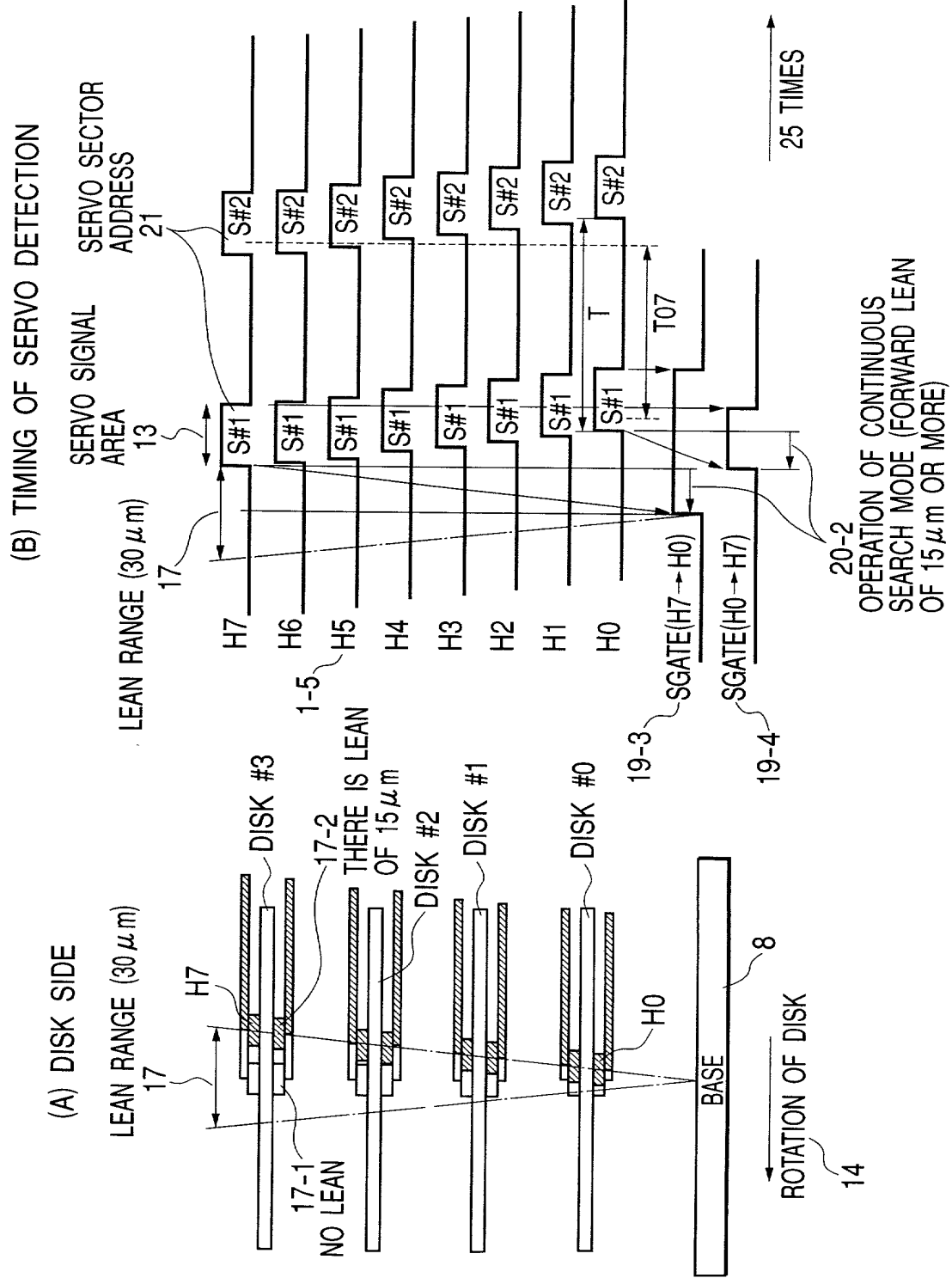


FIG. 2



**FIG. 3**

LINEAR MODEL (THICKNESS OF DISK=INTERVAL  
BETWEEN HEADS)

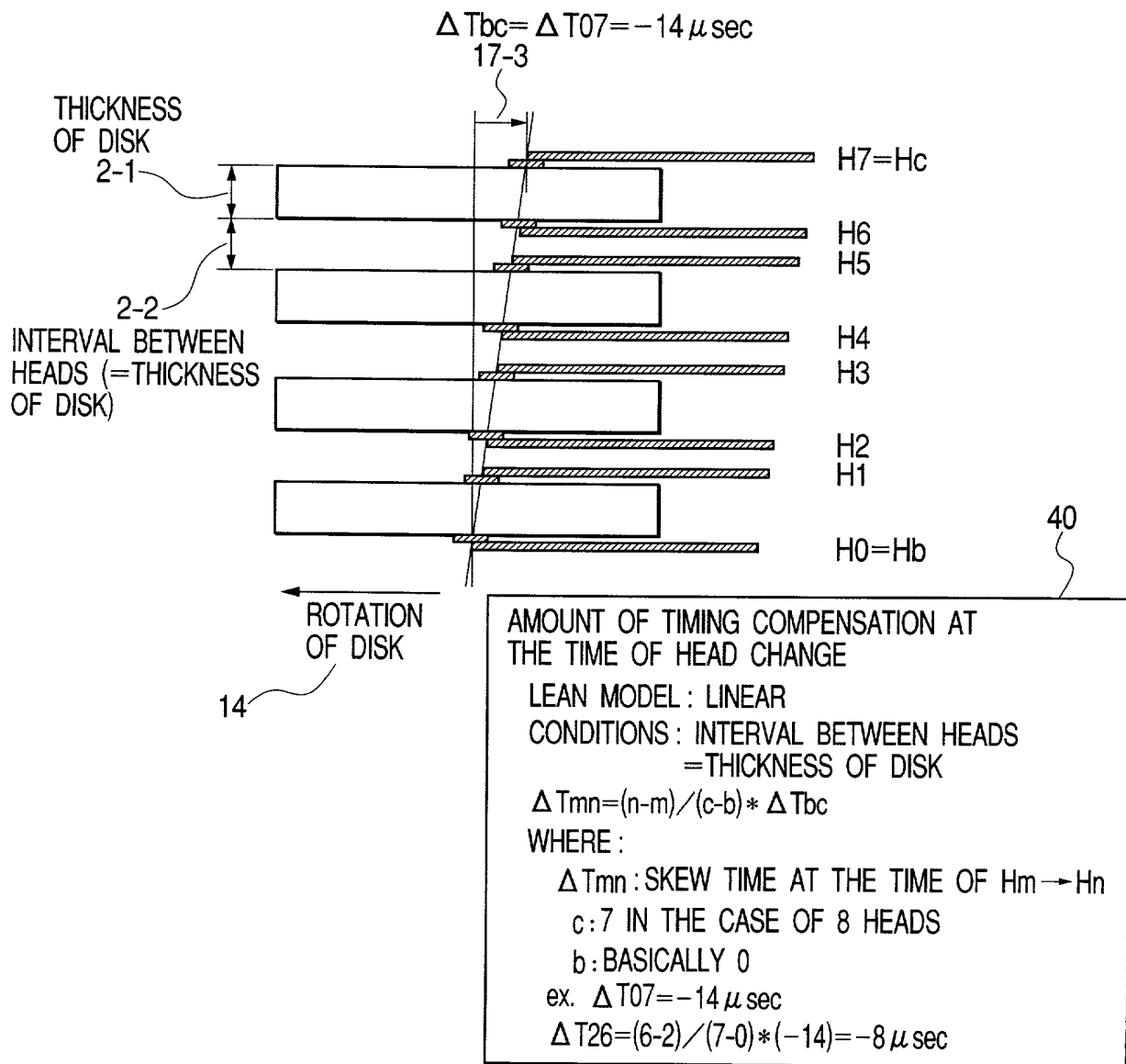
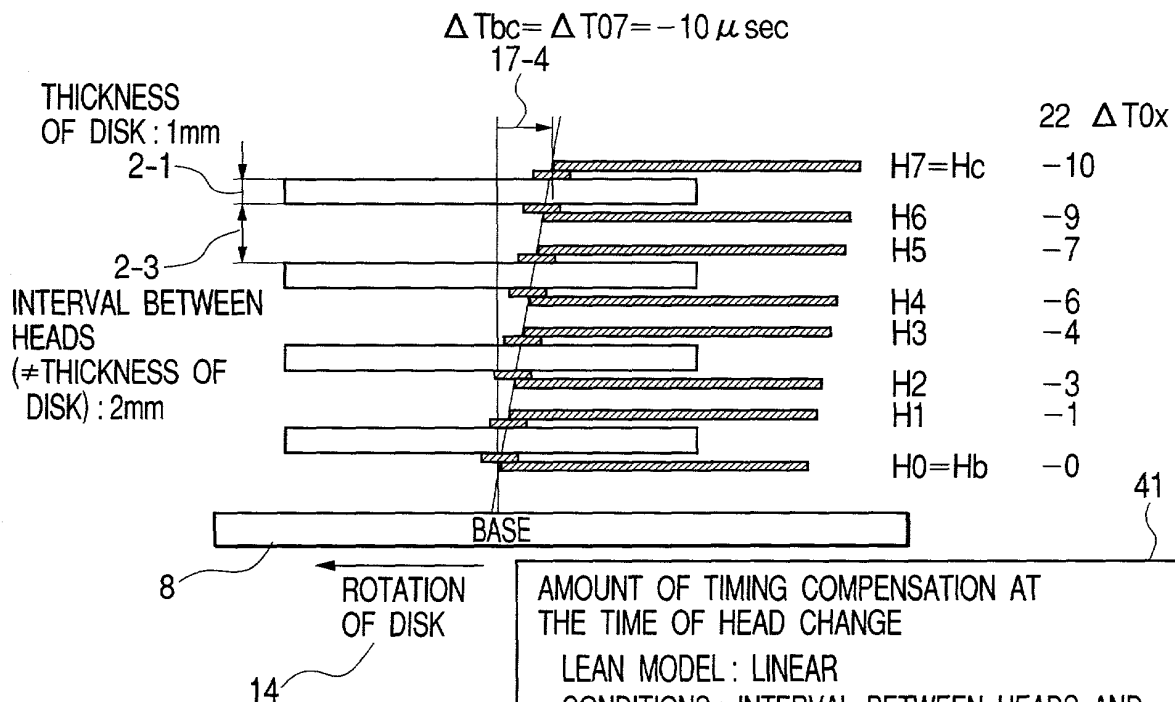


FIG. 4

LINEAR MODEL (THICKNESS OF DISK ≠ INTERVAL  
BETWEEN HEADS)



AMOUNT OF TIMING COMPENSATION AT  
THE TIME OF HEAD CHANGE

LEAN MODEL : LINEAR

CONDITIONS : INTERVAL BETWEEN HEADS AND  
THICKNESS OF DISK ARE ARBITRARY

$$\Delta T_{mn} = (L_n - L_m) / (L_c - L_b) * \Delta T_{bc}$$

$$\text{ex. } \Delta T_{26} = (9 - 3) / (10 - 0) * (-10) = -6 \mu \text{ sec}$$

WHERE :

$L_c$  : DISTANCE FROM BASE TO HEAD  
ON CASE SIDE

$L_b$  : DISTANCE FROM BASE TO HEAD  
ON BASE SIDE

$L_x$  : DISTANCE FROM BASE TO  $H_x$

CALCULATION OF  $\Delta T_{mn}$  BY LEARNING

$$\Delta T_{mn} = \Delta T_{0n} - \Delta T_{0m}$$

$$\text{ex. } \Delta T_{26} = (-9) - (-3) = -6 \mu \text{ sec}$$

FIG. 5

NONLINEAR MODEL (SQUARE CURVE)

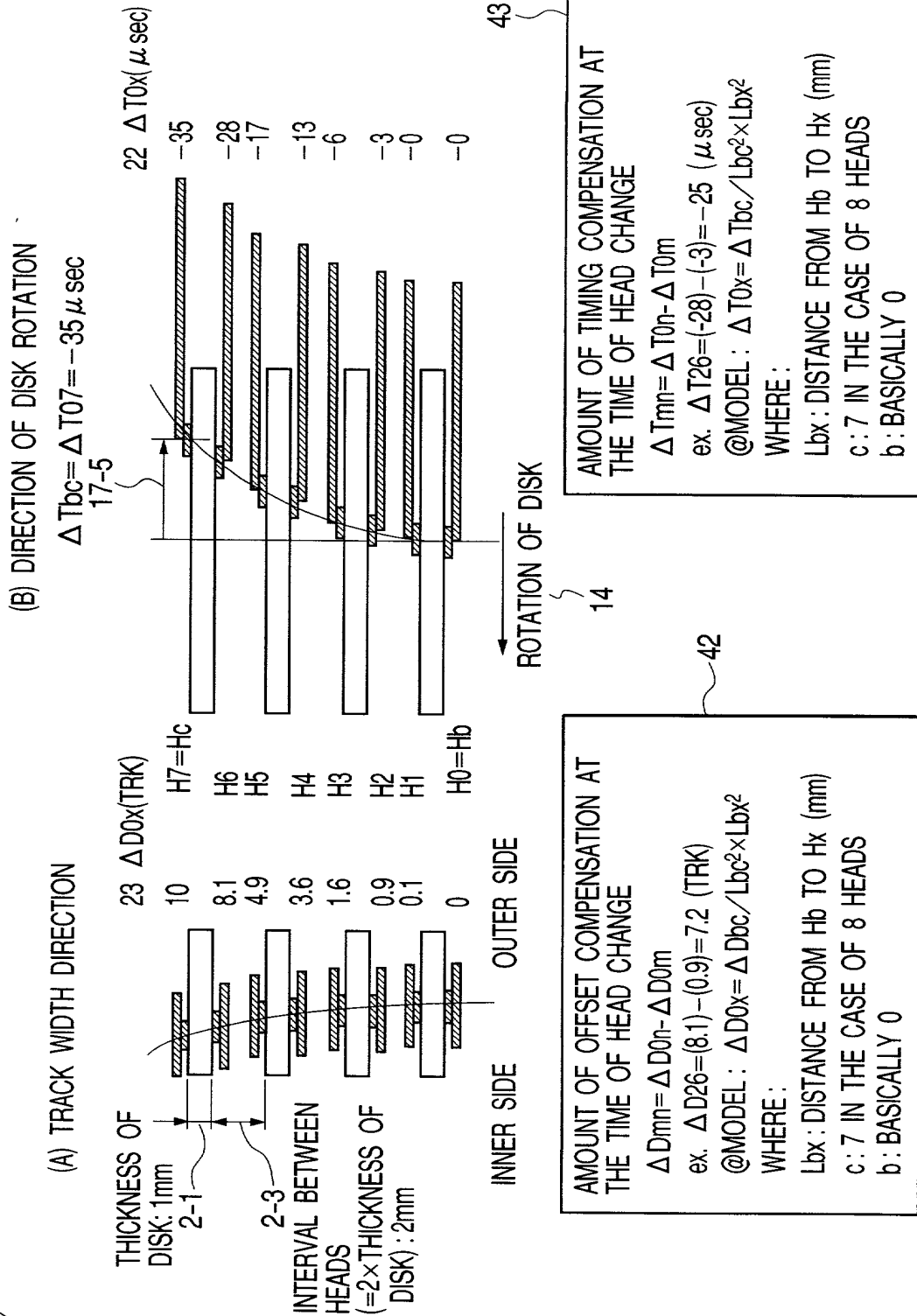
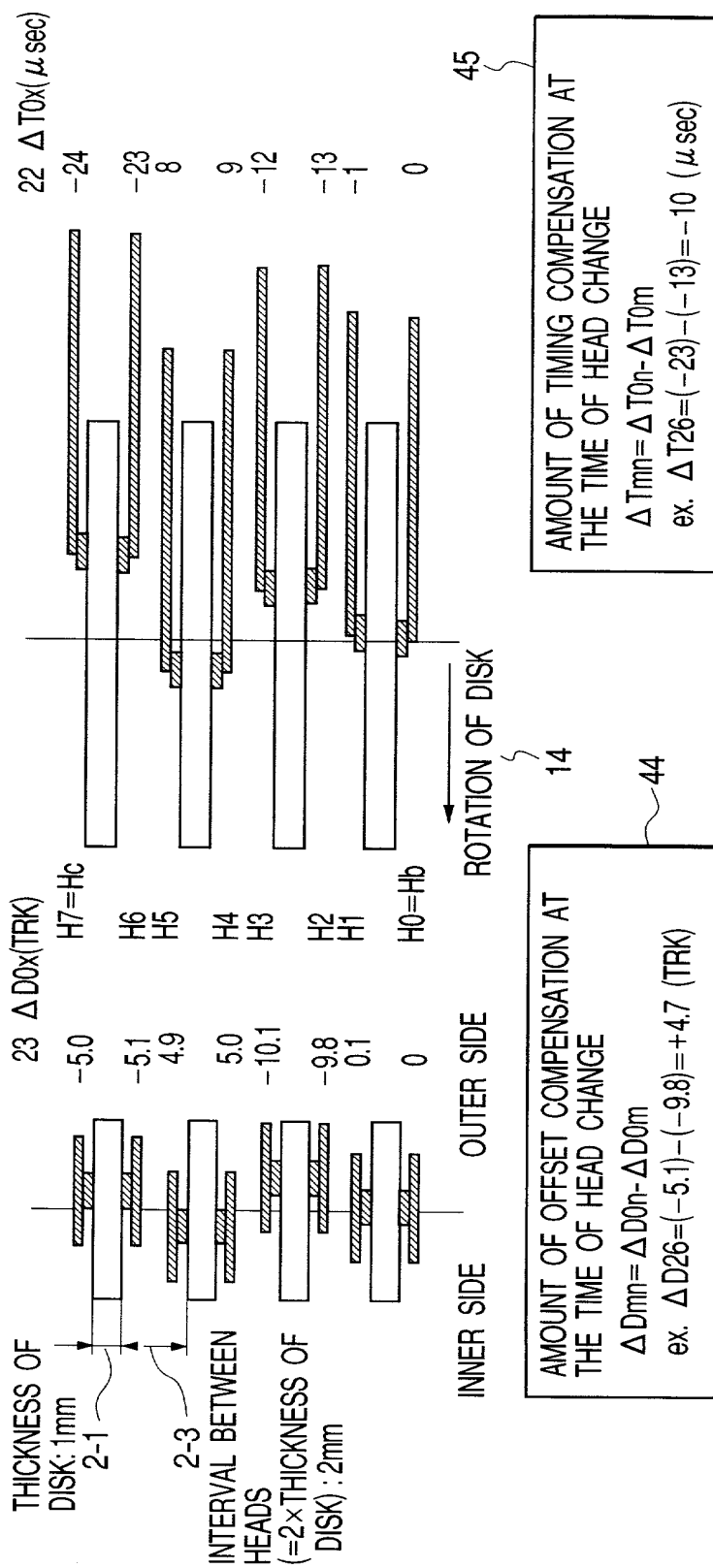


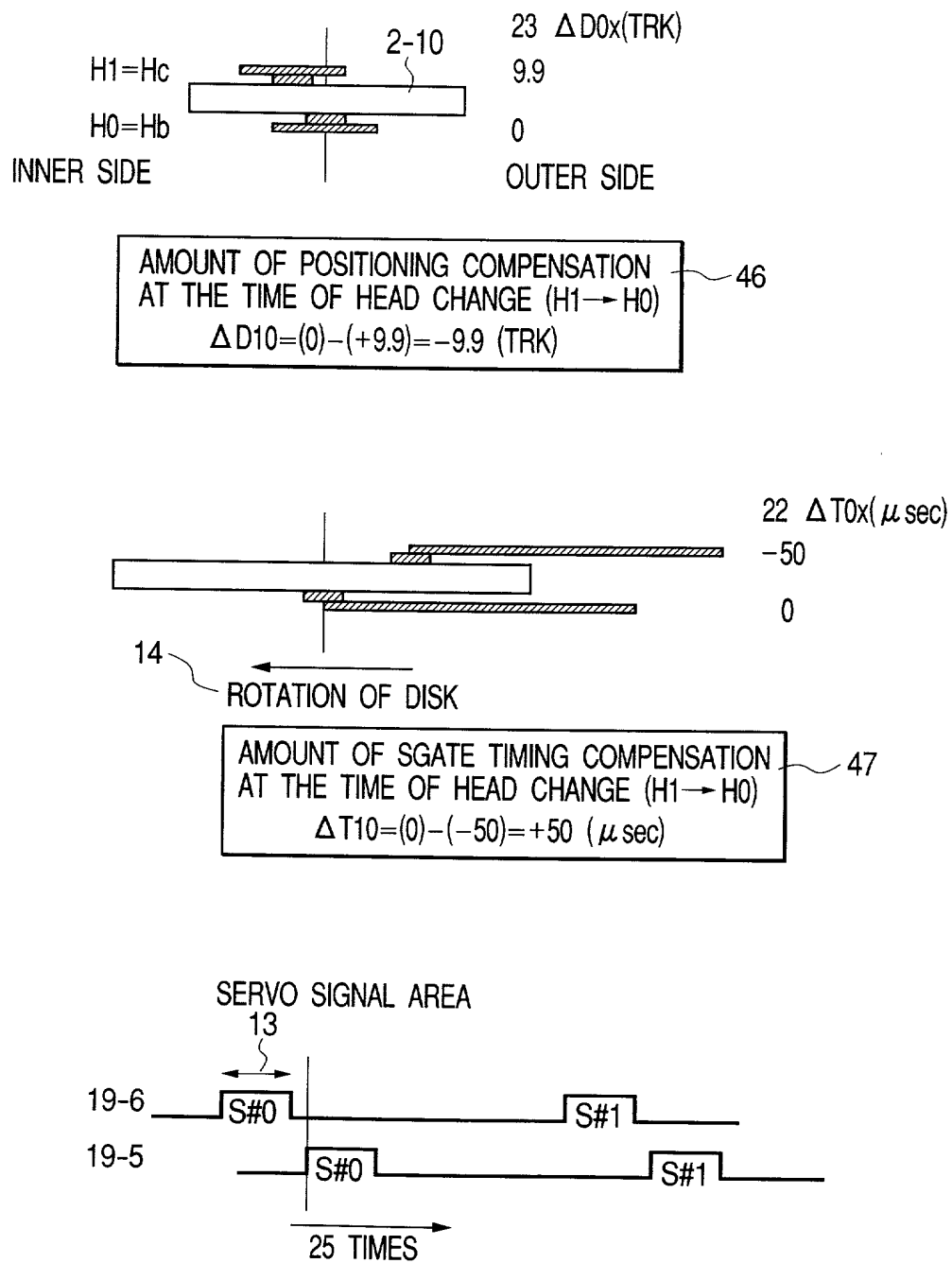
FIG. 6

DISK SLIP+HEAD SKEW



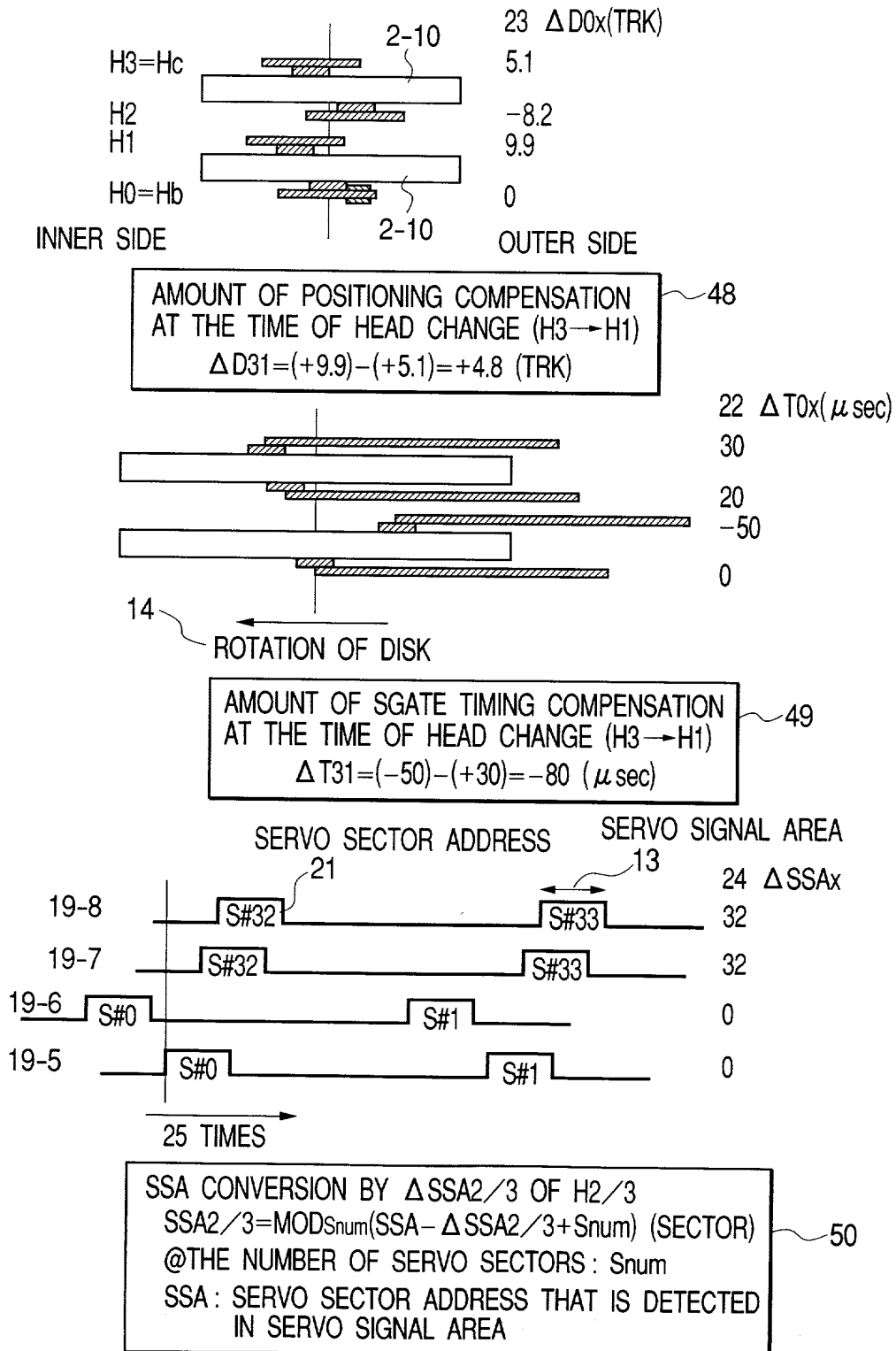
# FIG. 7

APPLICATION OF ONE PRE-STW DISK  
BY MEDIA PREWRITE STW



**FIG. 8**

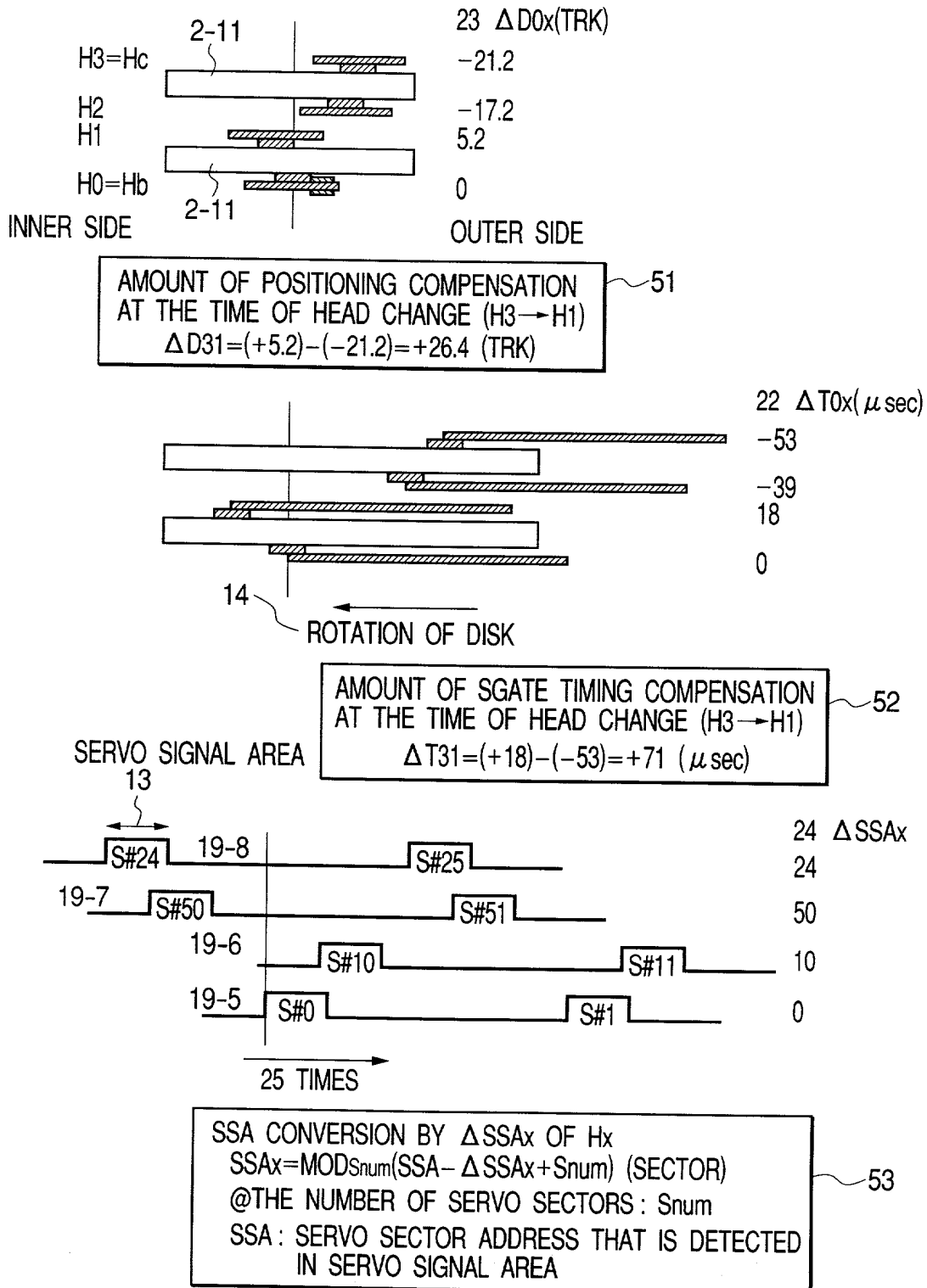
APPLICATION OF TWO PRE-STW DISKS  
BY MEDIA PREWRITE STW





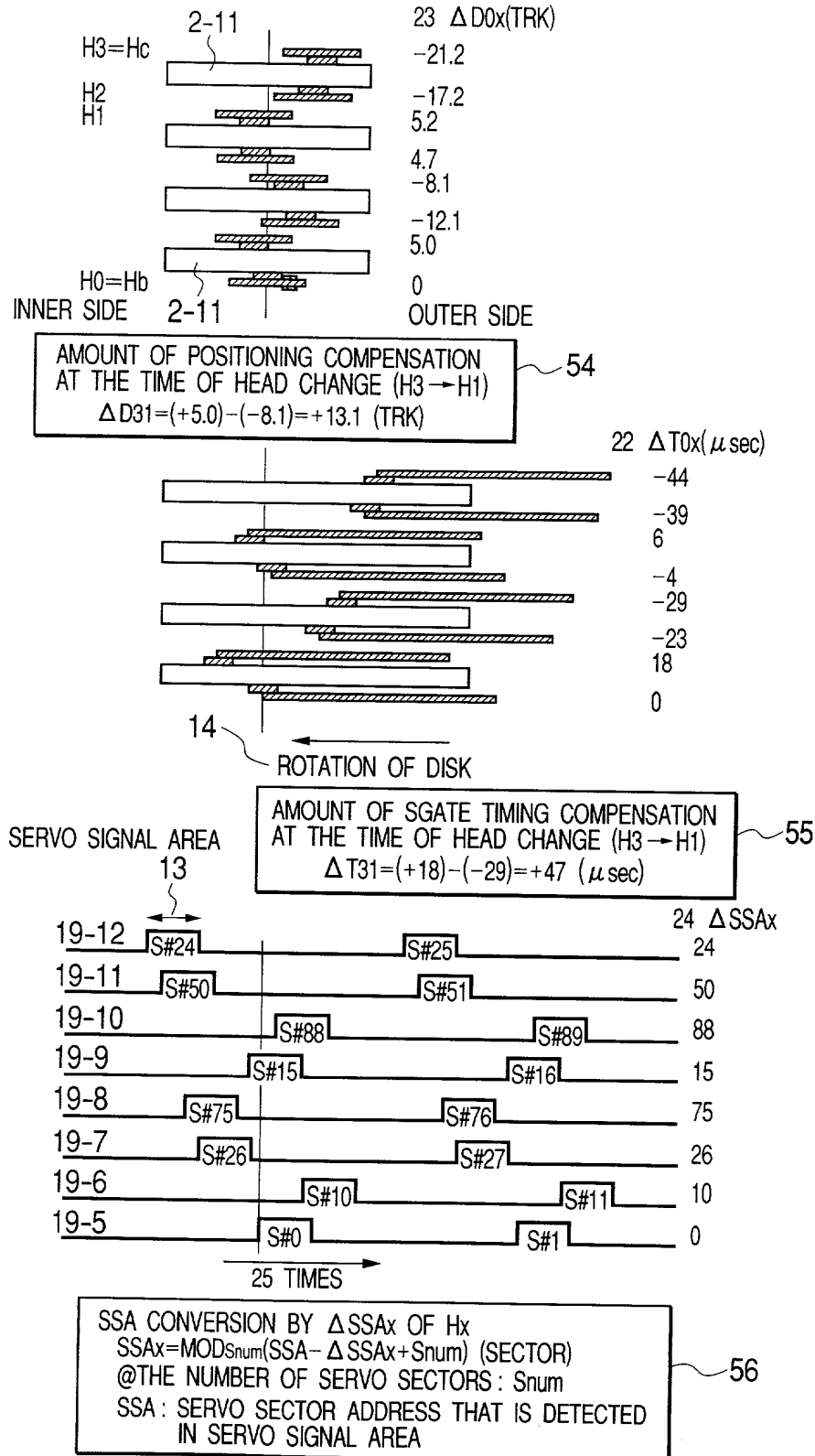
# FIG. 9

APPLICATION OF TWO PRE-STW DISKS BY PATTERNED  
DISK AND MAGNETIC PRINTED MEDIA STW

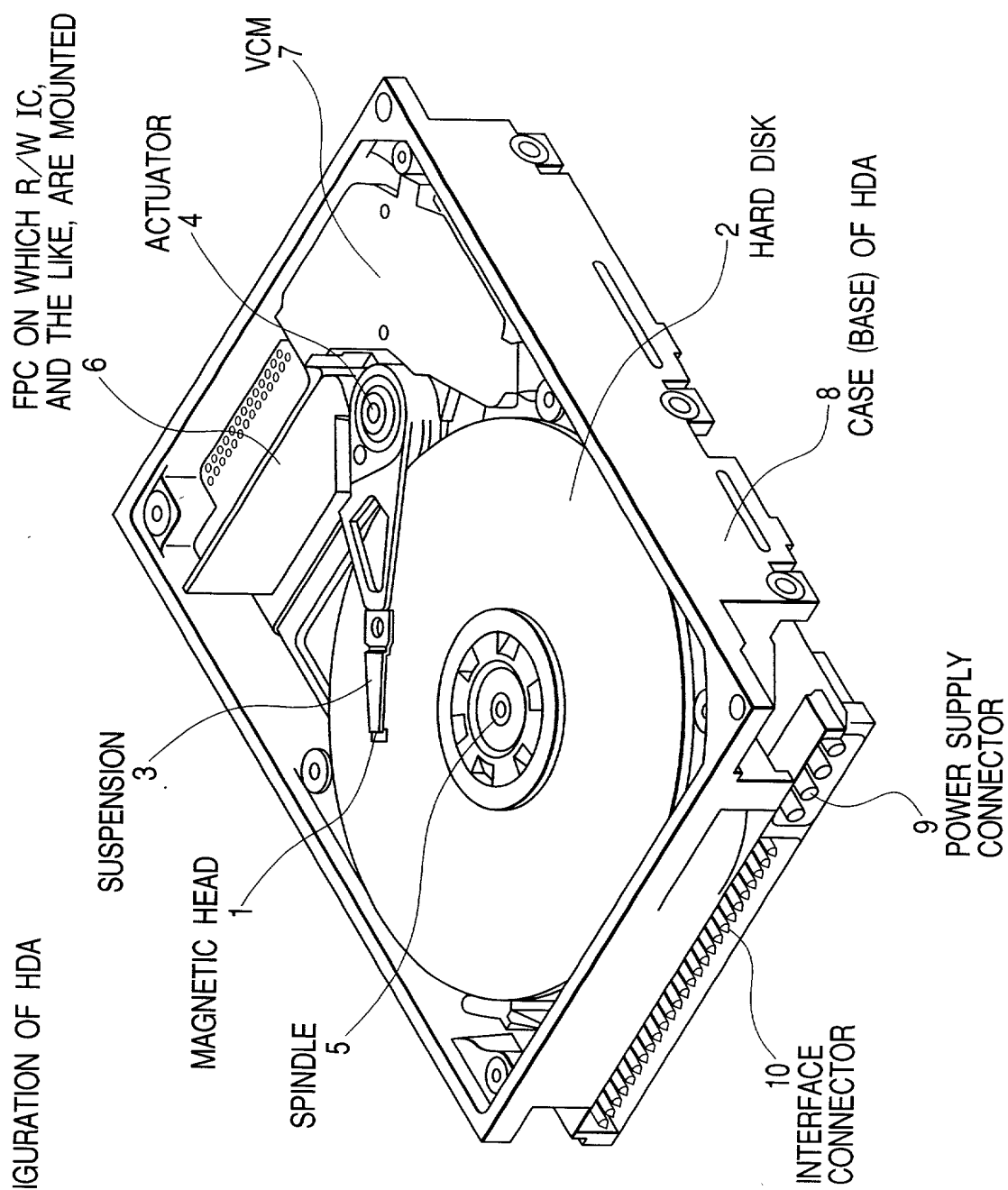


**FIG. 10**

APPLICATION OF FOUR PRE-STW DISKS BY PATTERNED  
DISK AND MAGNETIC PRINTED MEDIA STW



**FIG. 11**  
CONFIGURATION OF HDA



**FIG. 12**  
CONFIGURATION OF HDD

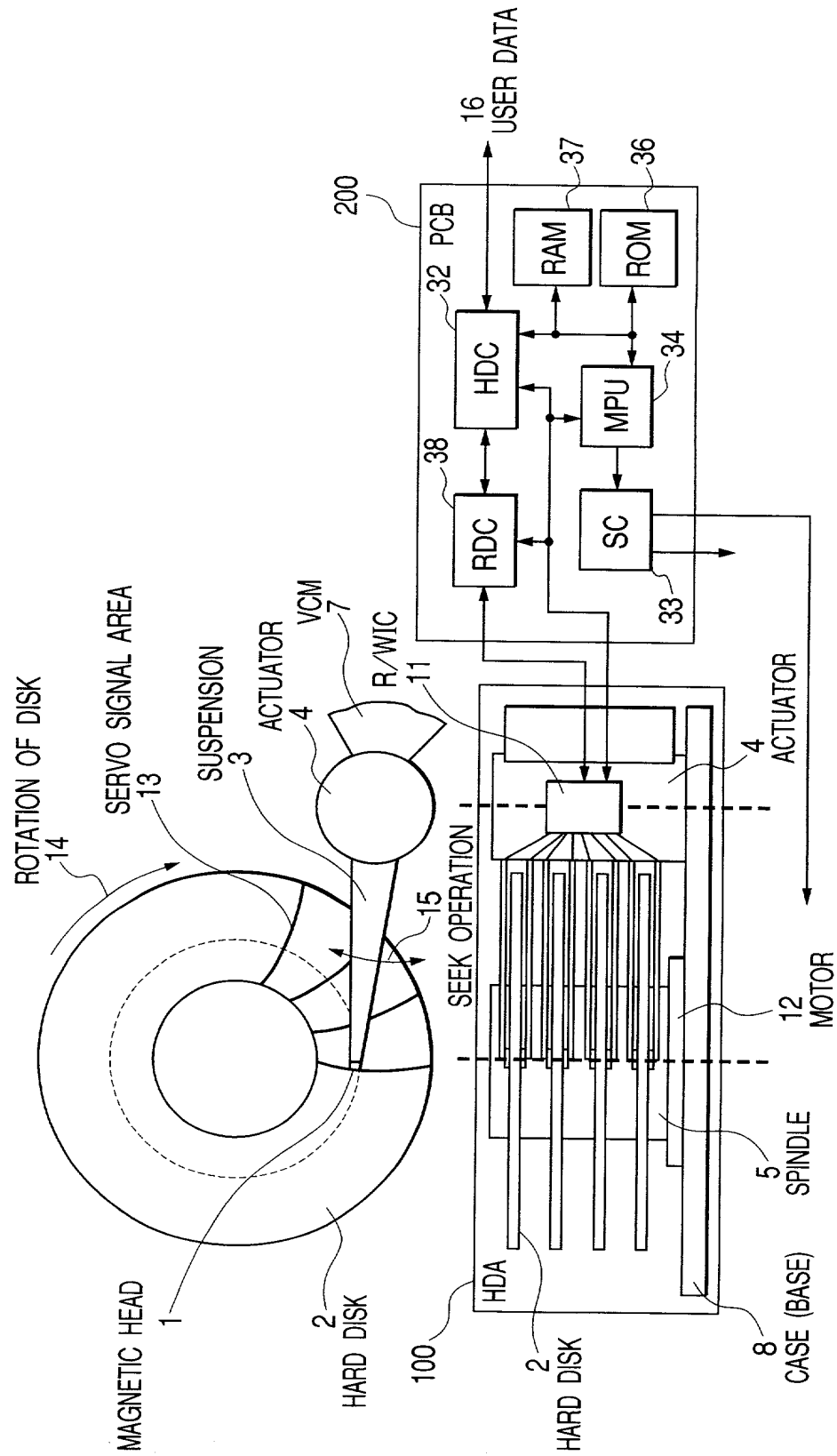
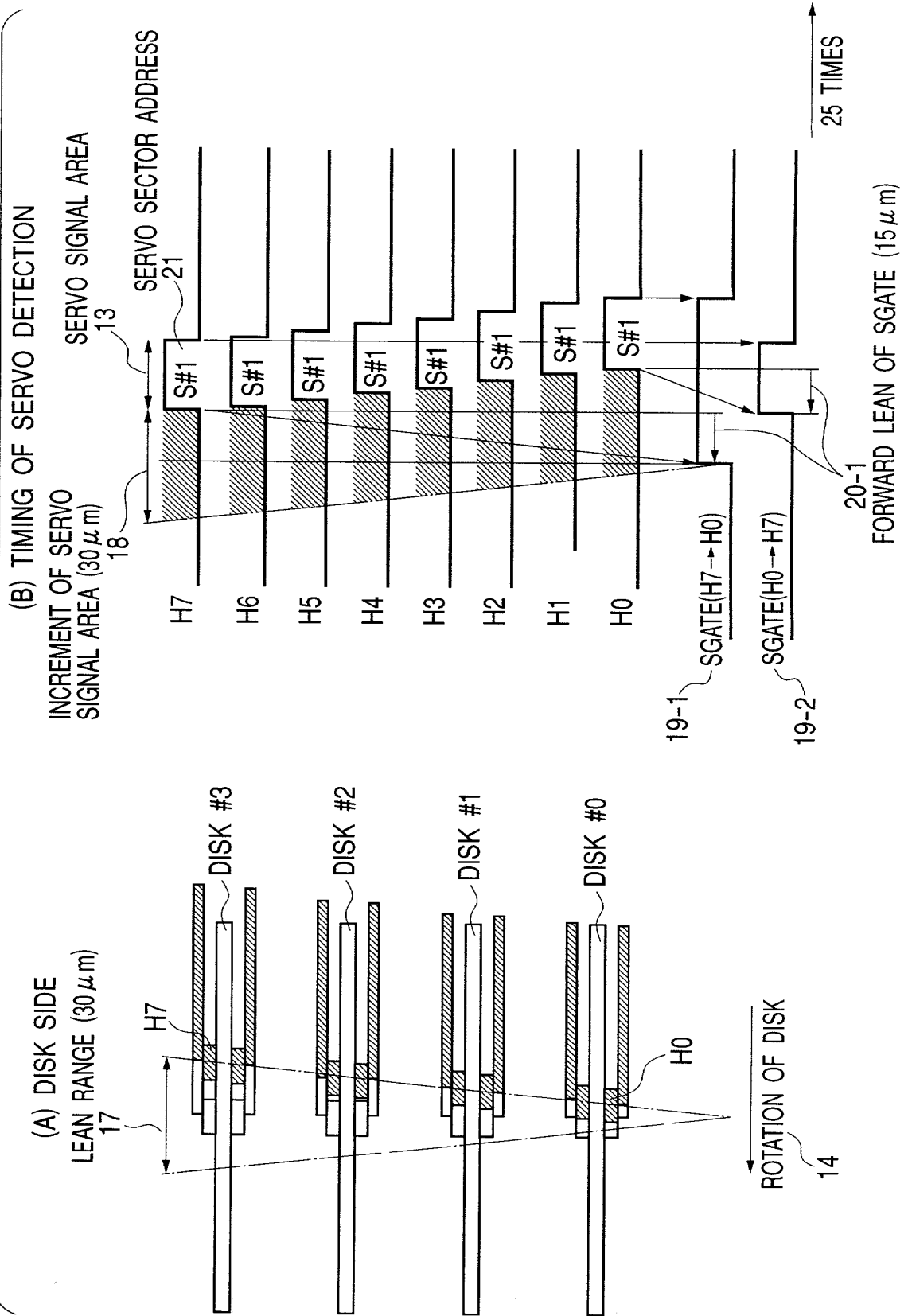
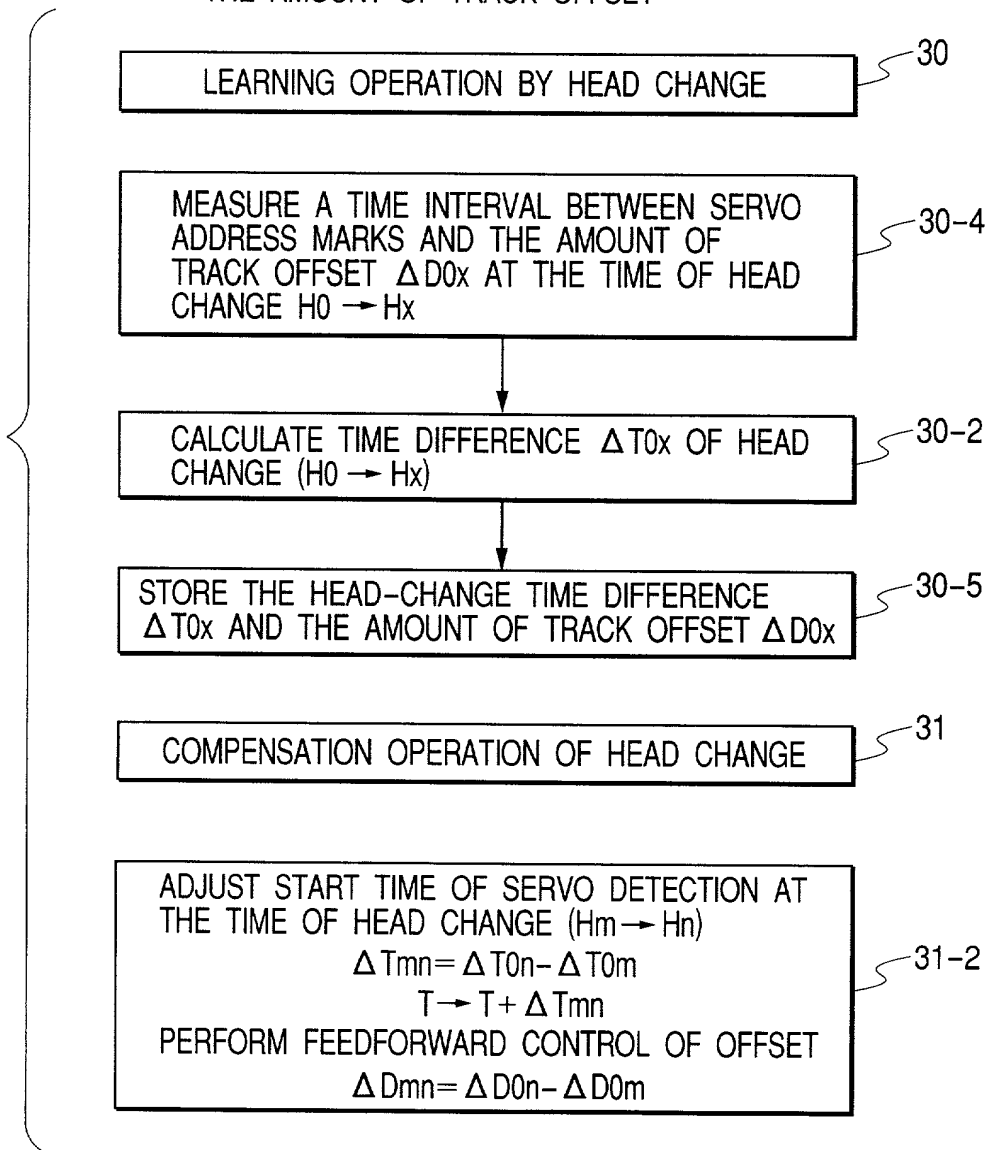


FIG. 13



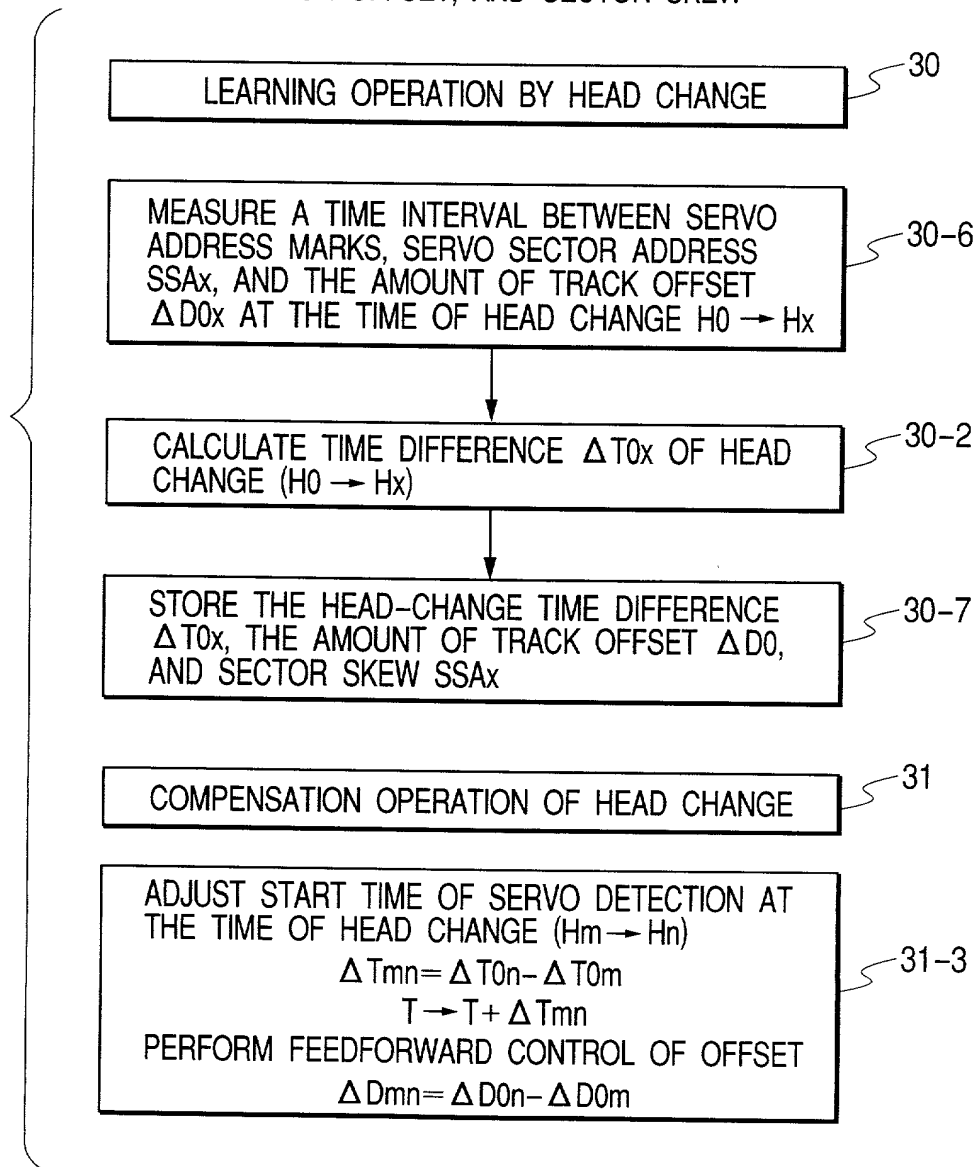
**FIG. 14**

LEARNING OF THE AMOUNT OF HEAD  
SKEW OF SERVO SIGNAL AREA AND  
THE AMOUNT OF TRACK OFFSET



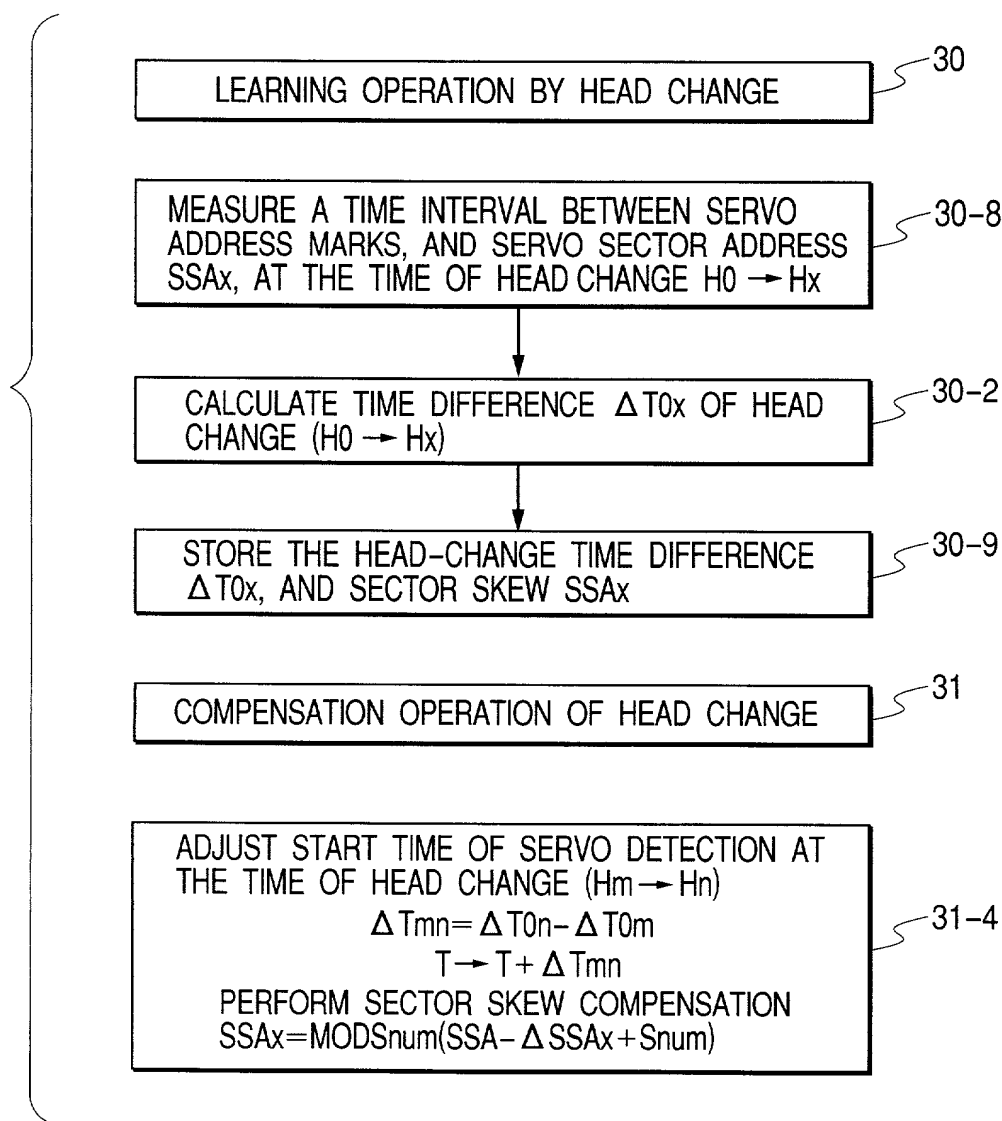
**FIG. 15**

LEARNING OF THE AMOUNT OF HEAD SKEW  
OF SERVO SIGNAL AREA, THE AMOUNT  
OF TRACK OFFSET, AND SECTOR SKEW



## FIG. 16

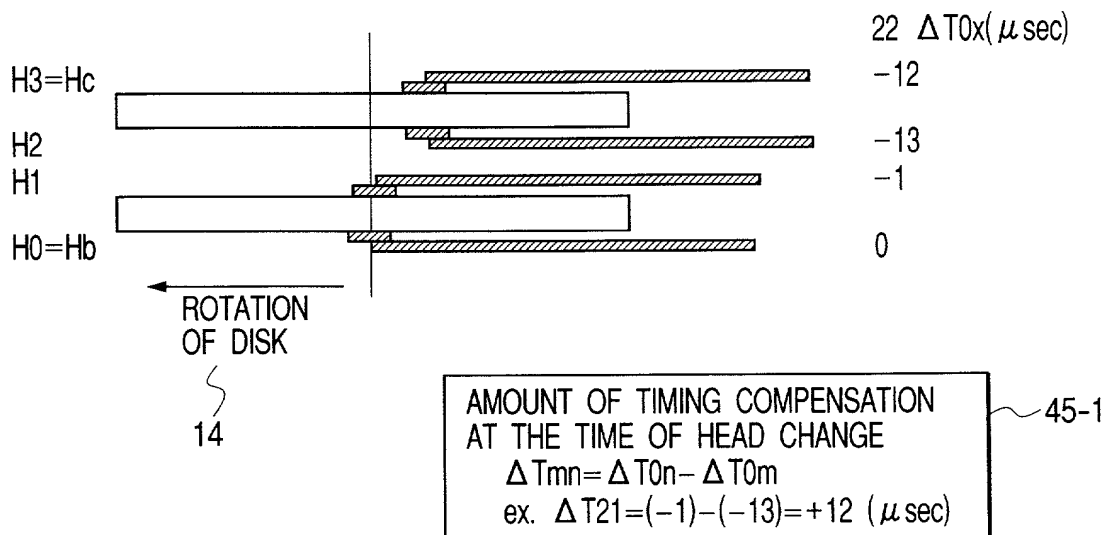
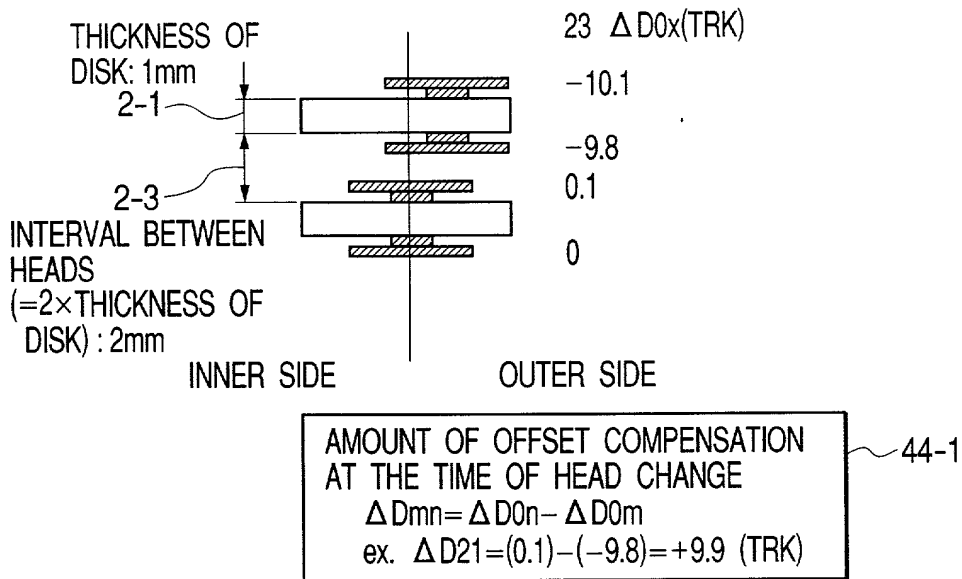
LEARNING OF THE AMOUNT OF HEAD SKEW OF  
SERVO SIGNAL AREA, AND SECTOR SKEW





# FIG. 17

TWO DISKS BUILT INTO MOBILE COMPUTING DEVICE



# FIG. 18

APPLICATION OF ONE PRE-STW DISK BY PATTERNED  
DISK AND MAGNETIC PRINTED MEDIA STW

